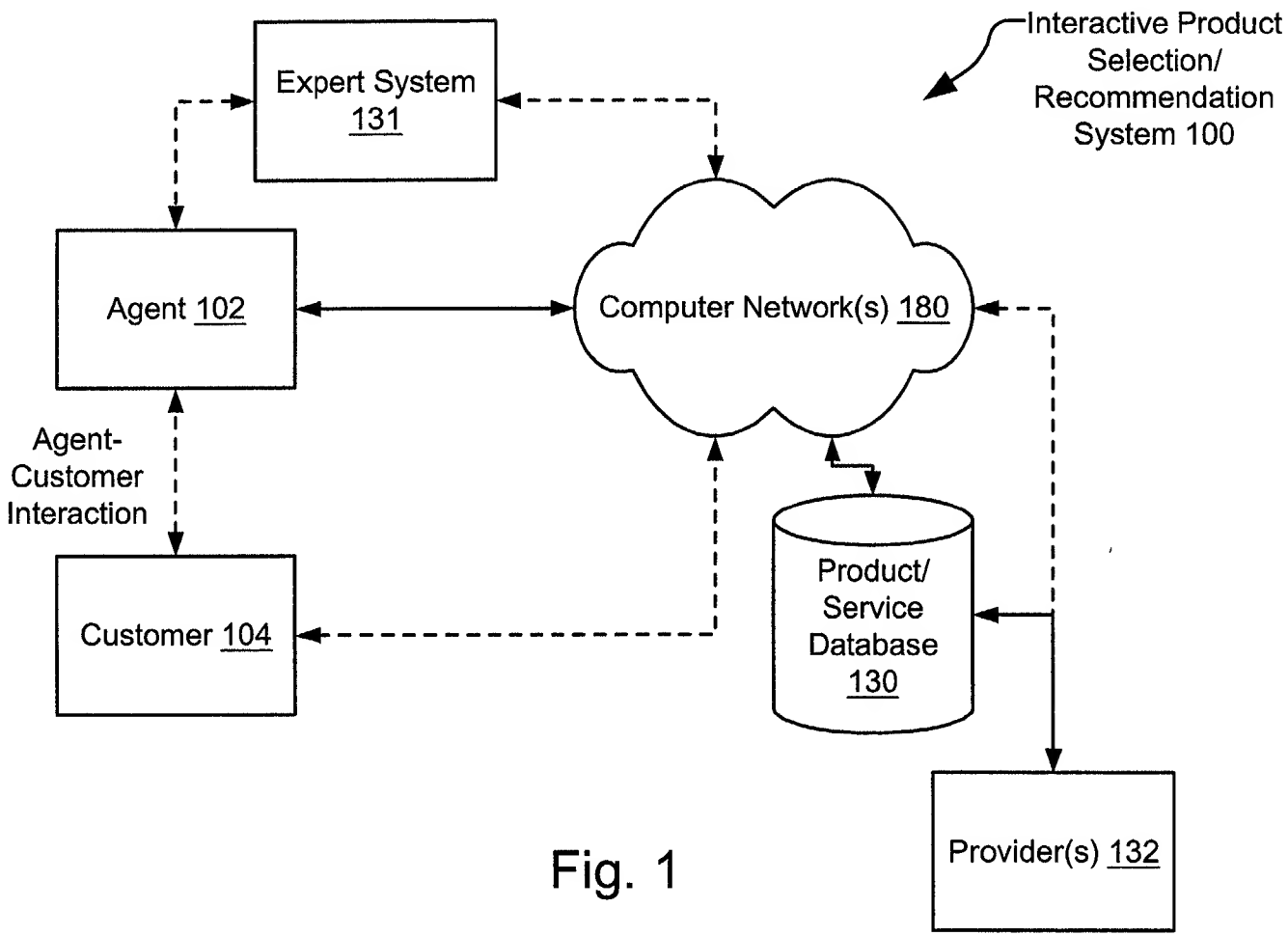
Interactive Product Selection/ Recommendation System 100
Expert System 131
Agent 102
Computer Network(s) 180
Agent-Customer Interaction
Customer 104
Product/ Service Database 130
Provider(s) 132

Fig. 1

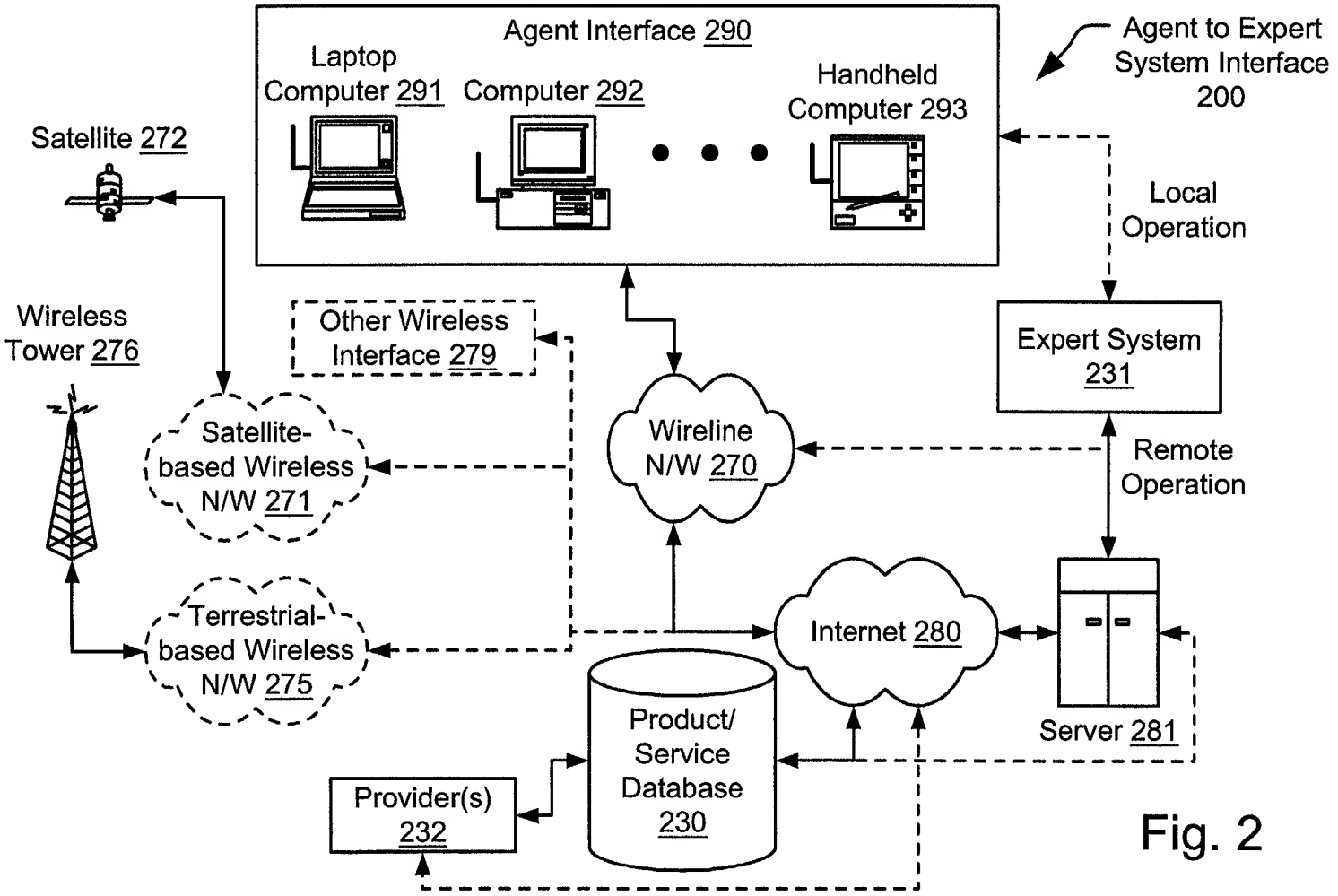
Agent Interface 290
Laptop Computer 291
Computer 292
Handheld Computer 293
Agent to Expert System Interface 200
Satellite 272
Local Operation
Wireless Tower 276
Other Wireless Interface 279
Expert System 231
Satellite-based Wireless N/W 271
Wireline N/W 270
Remote Operation
Terrestrial-based Wireless N/W 275
Internet 280
Server 281
Product/ Service Database 230
Provider(s) 232

Fig. 2

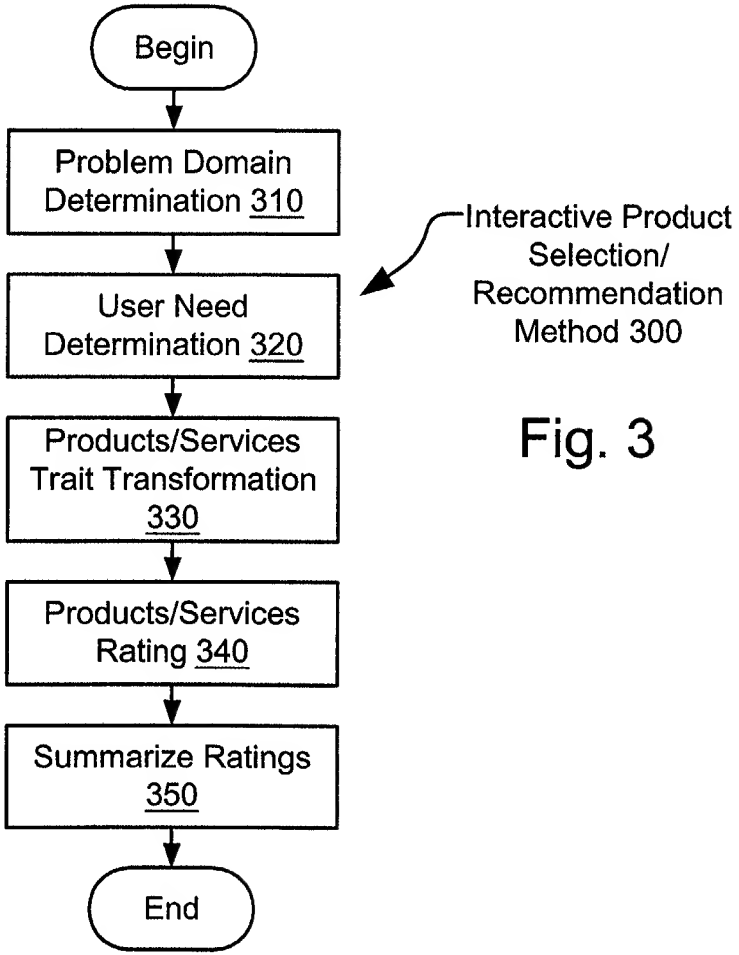
Begin
Problem Domain Determination 310
User Need Determination 320
Products/Services Trait Transformation 330
Products/Services Rating 340
Summarize Ratings 350
End
Interactive Product Selection/ Recommendation Method 300

Fig. 3

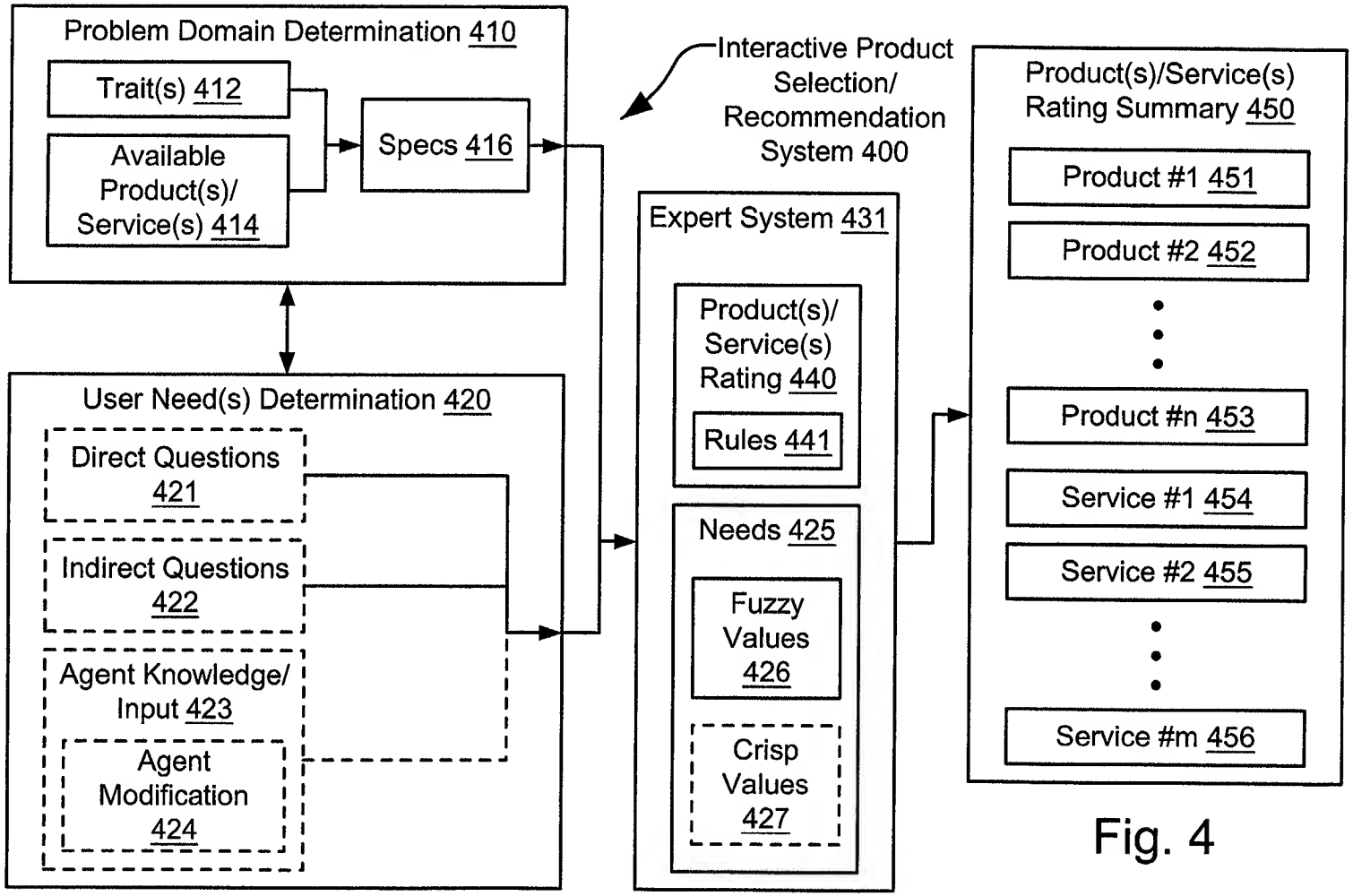
Problem Domain Determination 410
Trait(s) 412
Available Product(s)/ Service(s) 414
Specs 416
Interactive Product Selection/ Recommendation System 400
User Need(s) Determination 420
Direct Questions 421
Indirect Questions 422
Agent Knowledge/ Input 423
Agent Modification 424
Expert System 431
Product(s)/ Service(s) Rating 440
Rules 441
Needs 425
Fuzzy Values 426
Crisp Values 427
Product(s)/Service(s) Rating Summary 450
Product #1 451
Product #2 452
Product #n 453
Service #1 454
Service #2 455
Service #m 456

Fig. 4

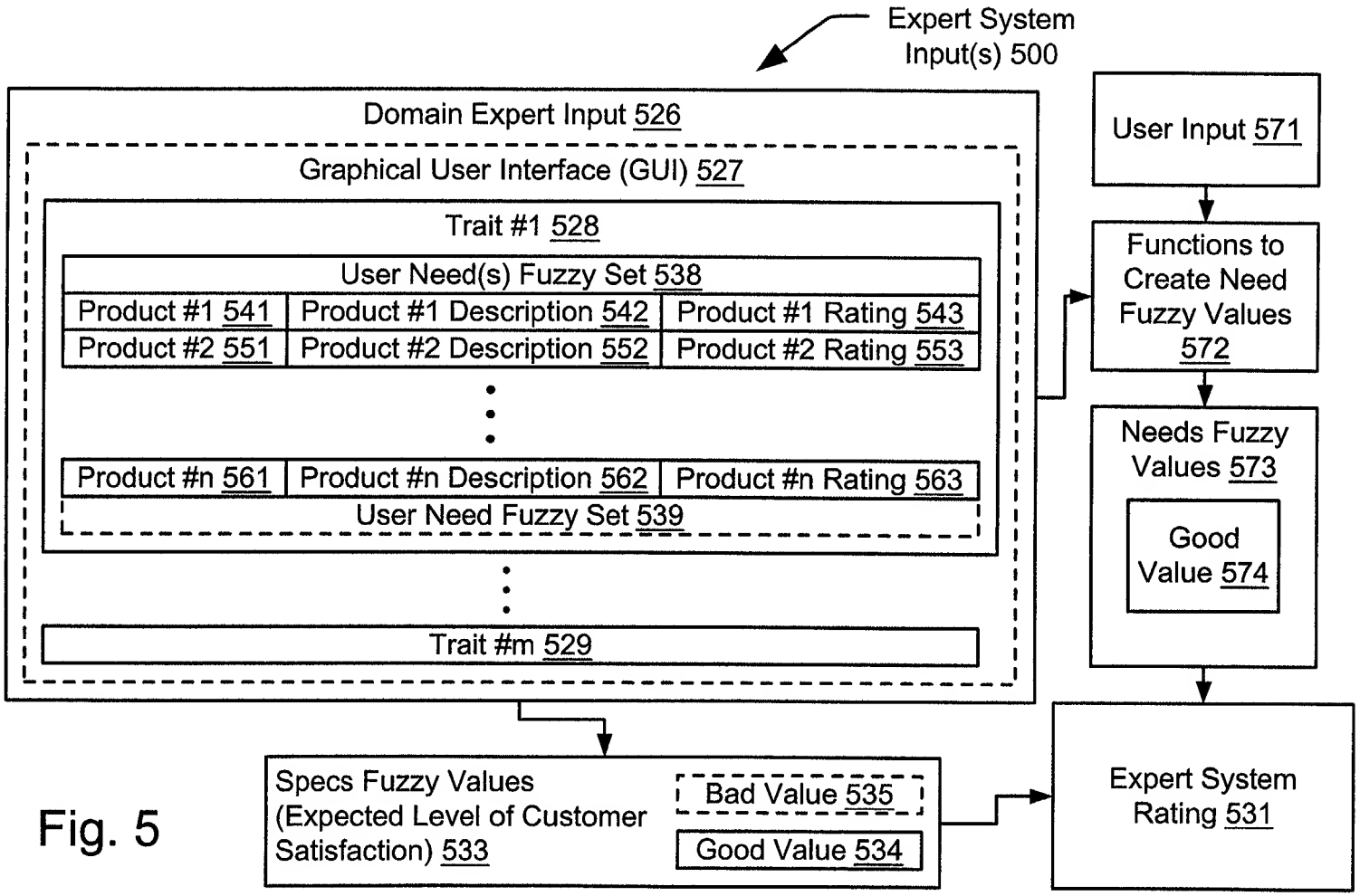
Expert System Input(s) 500
Domain Expert Input 526
Graphical User Interface (GUI) 527
Trait #1 528
User Need(s) Fuzzy Set 538
Product #1 541
Product #1 Description 542
Product #1 Rating 543
Product #2 551
Product #2 Description 552
Product #2 Rating 553
Product #n 561
Product #n Description 562
Product #n Rating 563
User Need Fuzzy Set 539
Trait #m 529
User Input 571
Functions to Create Need Fuzzy Values 572
Needs Fuzzy Values 573
Good Value 574
Specs Fuzzy Values (Expected Level of Customer Satisfaction) 533
Bad Value 535
Good Value 534
Expert System Rating 531

Fig. 5

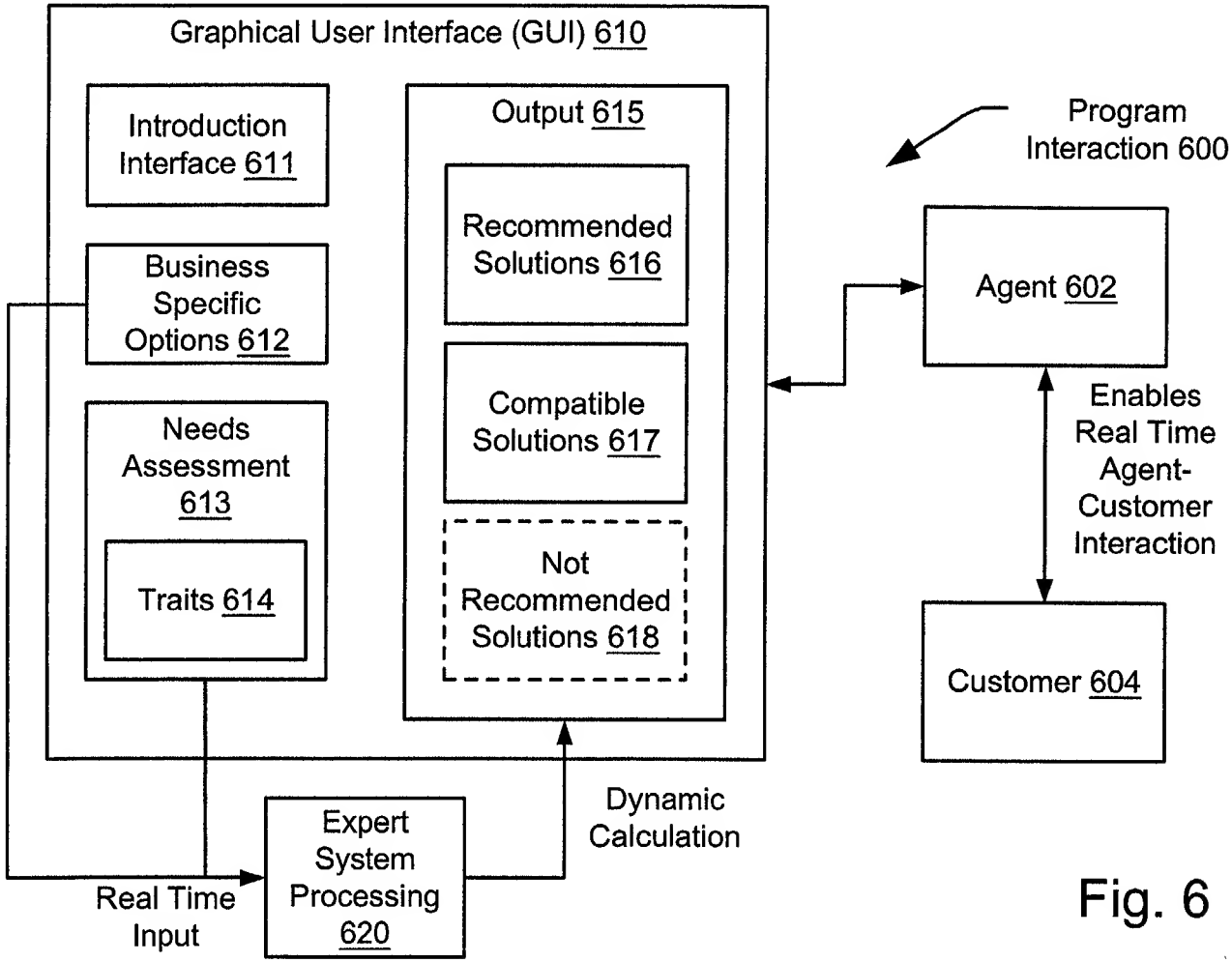
Graphical User Interface (GUI) 610
Introduction Interface 611
Business Specific Options 612
Needs Assessment 613
Traits 614
Output 615
Recommended Solutions 616
Compatible Solutions 617
Not Recommended Solutions 618
Program Interaction 600
Agent 602
Enables Real Time Agent-Customer Interaction
Customer 604
Expert System Processing 620
Real Time Input
Dynamic Calculation

Fig. 6

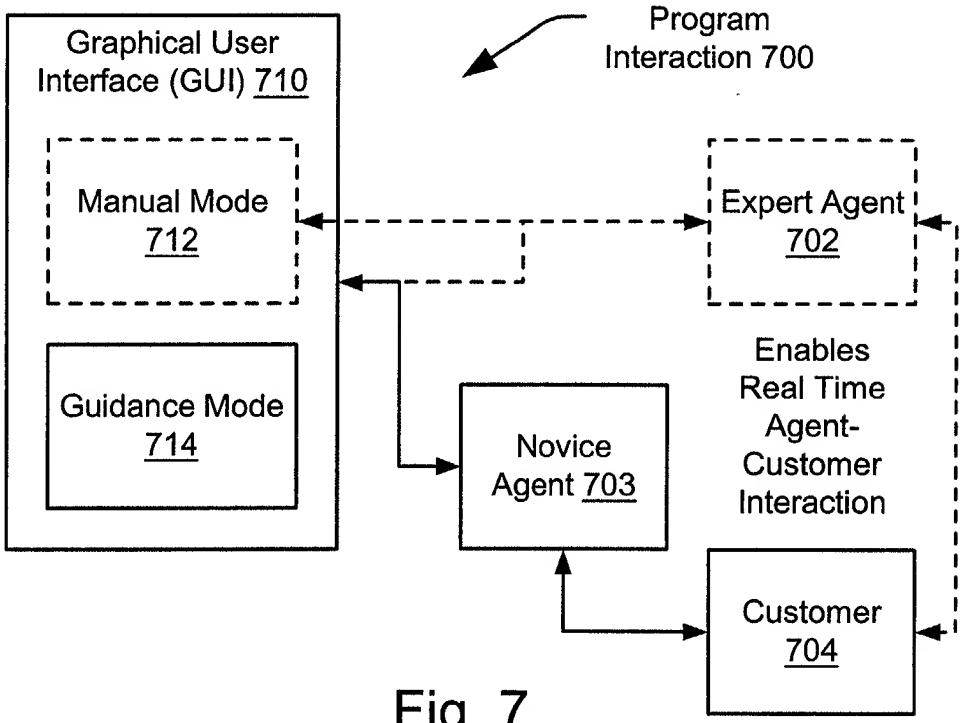
Graphical User Interface (GUI) 710
Program Interaction 700
Manual Mode 712
Guidance Mode 714
Expert Agent 702
Enables Real Time Agent-Customer Interaction
Novice Agent 703
Customer 704

Fig. 7

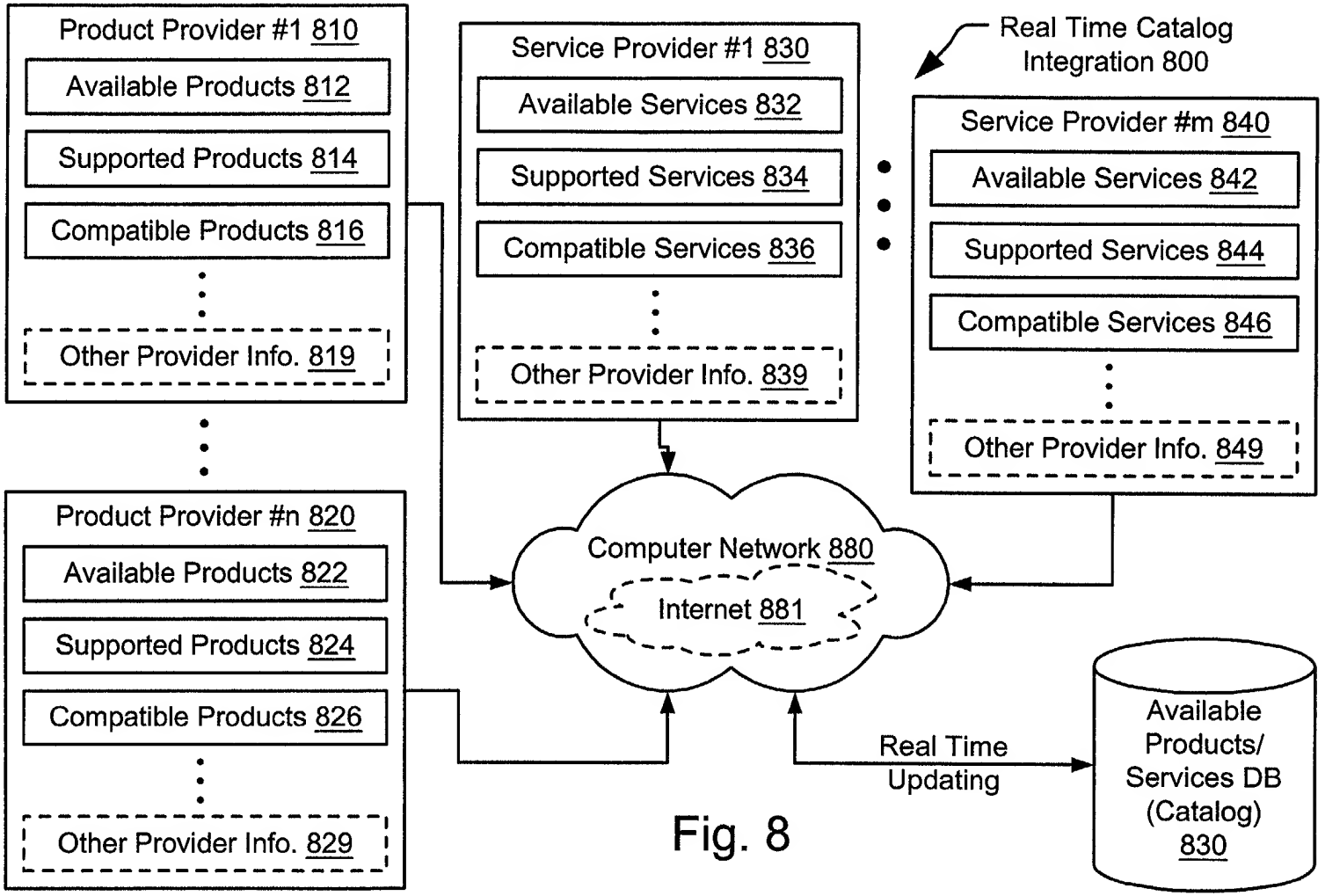
Product Provider #1 810
Available Products 812
Supported Products 814
Compatible Products 816
Other Provider Info. 819
Service Provider #1 830
Available Services 832
Supported Services 834
Compatible Services 836
Other Provider Info. 839
Real Time Catalog Integration 800
Service Provider #m 840
Available Services 842
Supported Services 844
Compatible Services 846
Other Provider Info. 849
Product Provider #n 820
Available Products 822
Supported Products 824
Compatible Products 826
Other Provider Info. 829
Computer Network 880
Internet 881
Real Time Updating
Available Products/ Services DB (Catalog) 830

Fig. 8

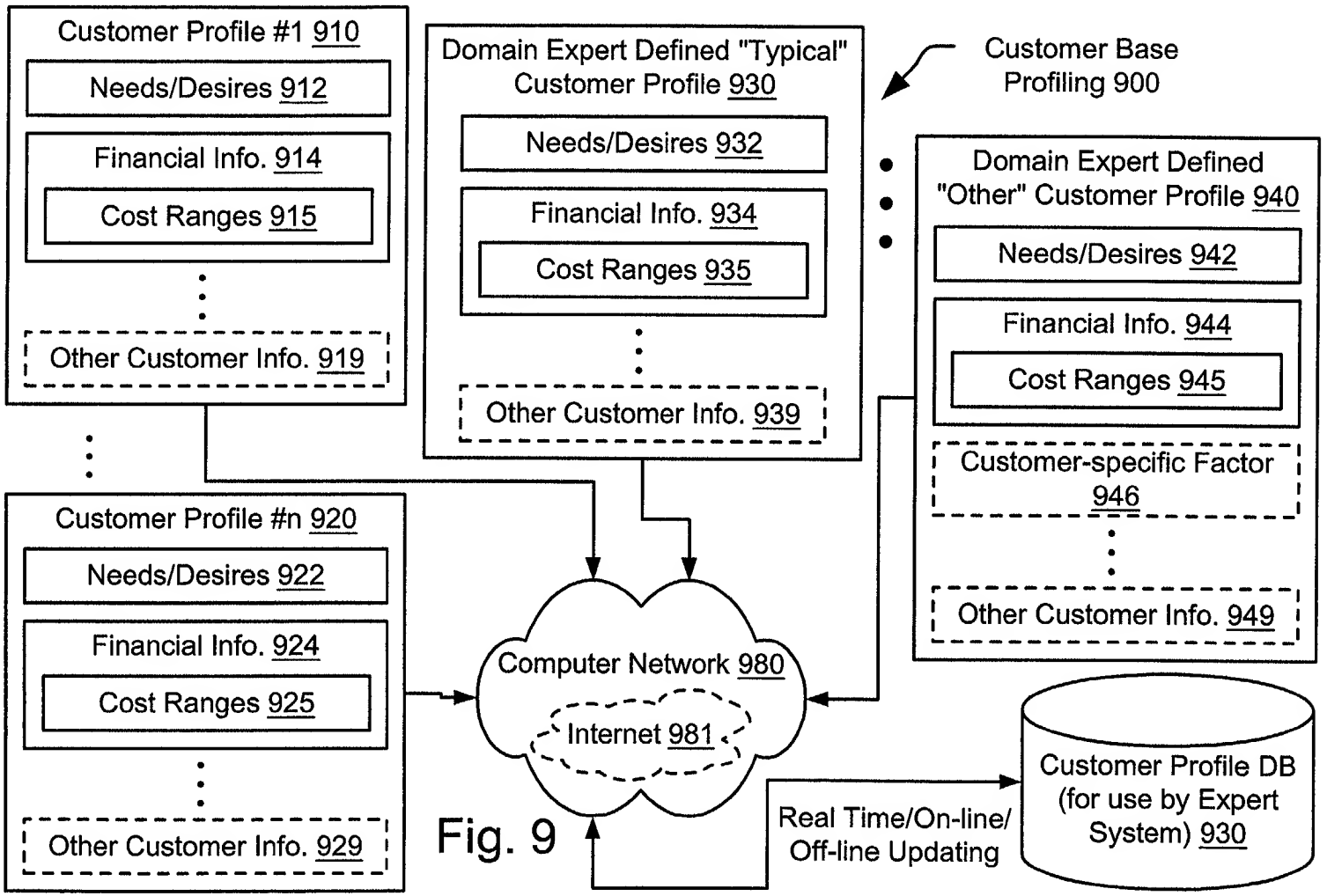
Customer Profile #1 910
Needs/Desires 912
Financial Info. 914
Cost Ranges 915
Other Customer Info. 919
Domain Expert Defined "Typical" Customer Profile 930
Needs/Desires 932
Financial Info. 934
Cost Ranges 935
Other Customer Info. 939
Customer Base Profiling 900
Domain Expert Defined "Other" Customer Profile 940
Needs/Desires 942
Financial Info. 944
Cost Ranges 945
Customer-specific Factor 946
Other Customer Info. 949
Customer Profile #n 920
Needs/Desires 922
Financial Info. 924
Cost Ranges 925
Other Customer Info. 929
Computer Network 980
Internet 981
Real Time/On-line/ Off-line Updating
Customer Profile DB (for use by Expert System) 930

Fig. 9

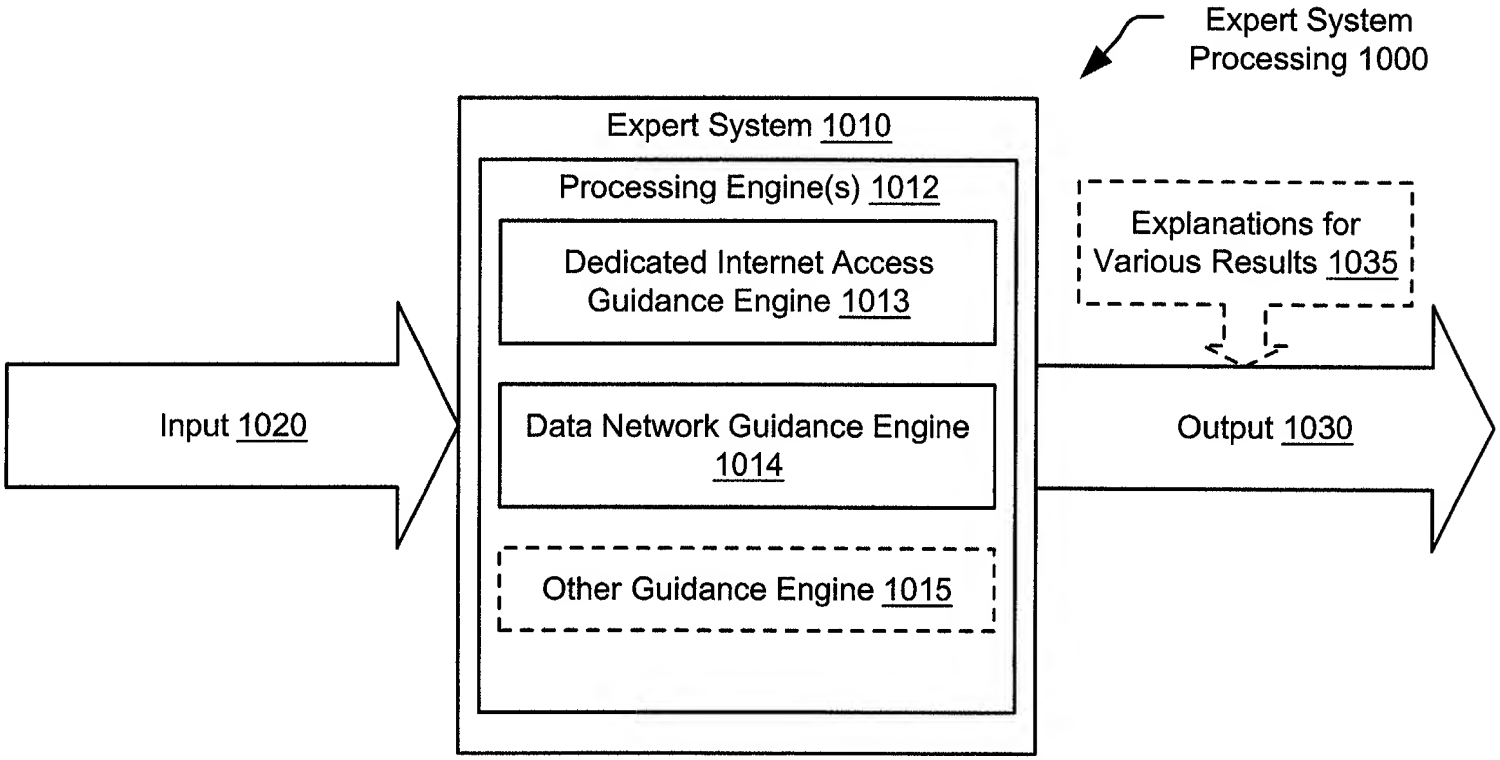
Expert System Processing 1000
Expert System 1010
Processing Engine(s) 1012
Dedicated Internet Access Guidance Engine 1013
Data Network Guidance Engine 1014
Other Guidance Engine 1015
Explanations for Various Results 1035
Input 1020
Output 1030

Fig. 10

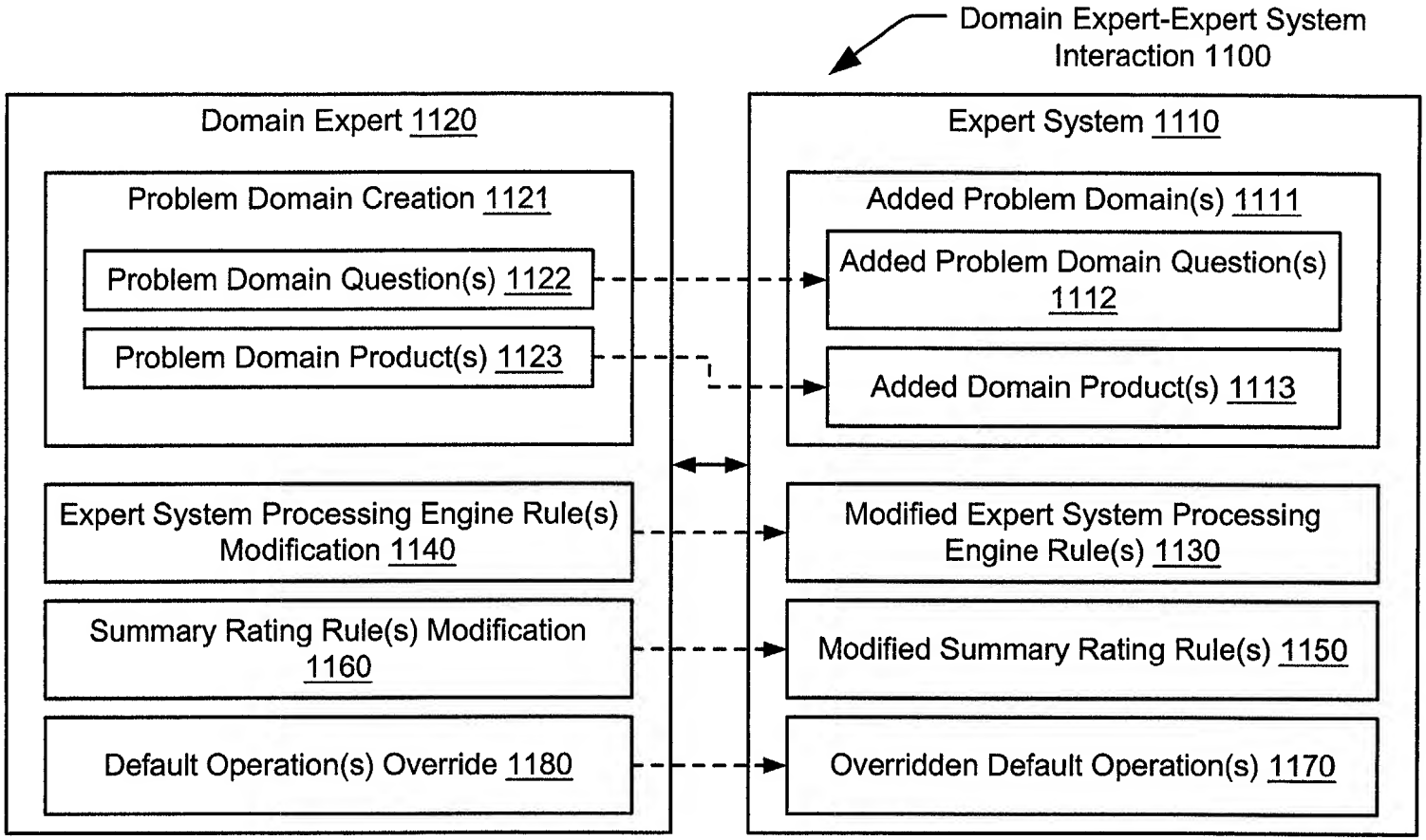
Domain Expert-Expert System Interaction 1100
Domain Expert 1120
Problem Domain Creation 1121
Problem Domain Question(s) 1122
Problem Domain Product(s) 1123
Expert System 1110
Added Problem Domain(s) 1111
Added Problem Domain Question(s) 1112
Added Domain Product(s) 1113
Expert System Processing Engine Rule(s) Modification 1140
Modified Expert System Processing Engine Rule(s) 1130
Summary Rating Rule(s) Modification 1160
Modified Summary Rating Rule(s) 1150
Default Operation(s) Override 1180
Overridden Default Operation(s) 1170

Fig. 11

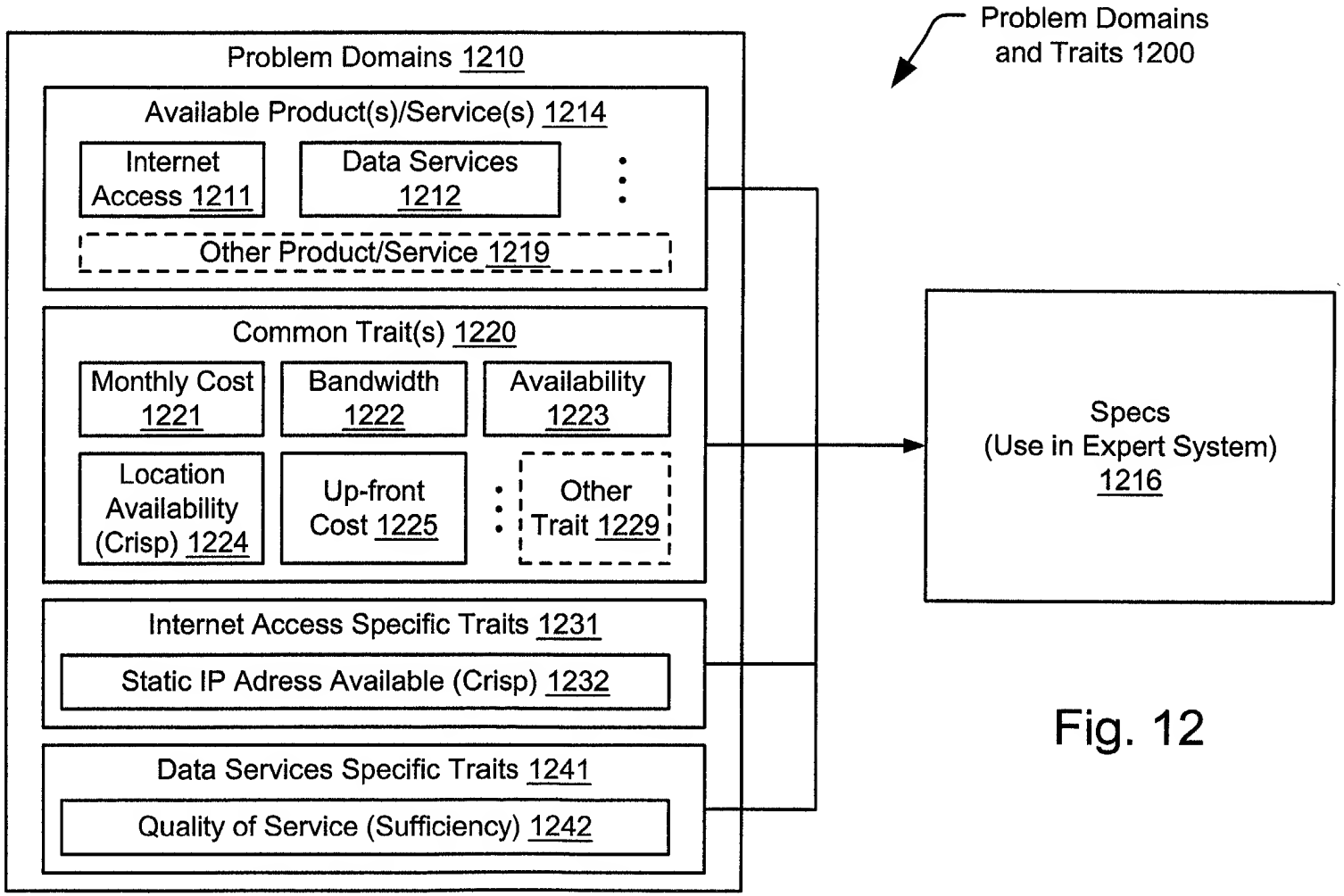
Problem Domains and Traits 1200
Problem Domains 1210
Available Product(s)/Service(s) 1214
Internet Access 1211
Data Services 1212
Other Product/Service 1219
Common Trait(s) 1220
Monthly Cost 1221
Bandwidth 1222
Availability 1223
Location Availability (Crisp) 1224
Up-front Cost 1225
Other Trait 1229
Internet Access Specific Traits 1231
Static IP Adress Available (Crisp) 1232
Data Services Specific Traits 1241
Quality of Service (Sufficiency) 1242
Specs (Use in Expert System) 1216

Fig. 12

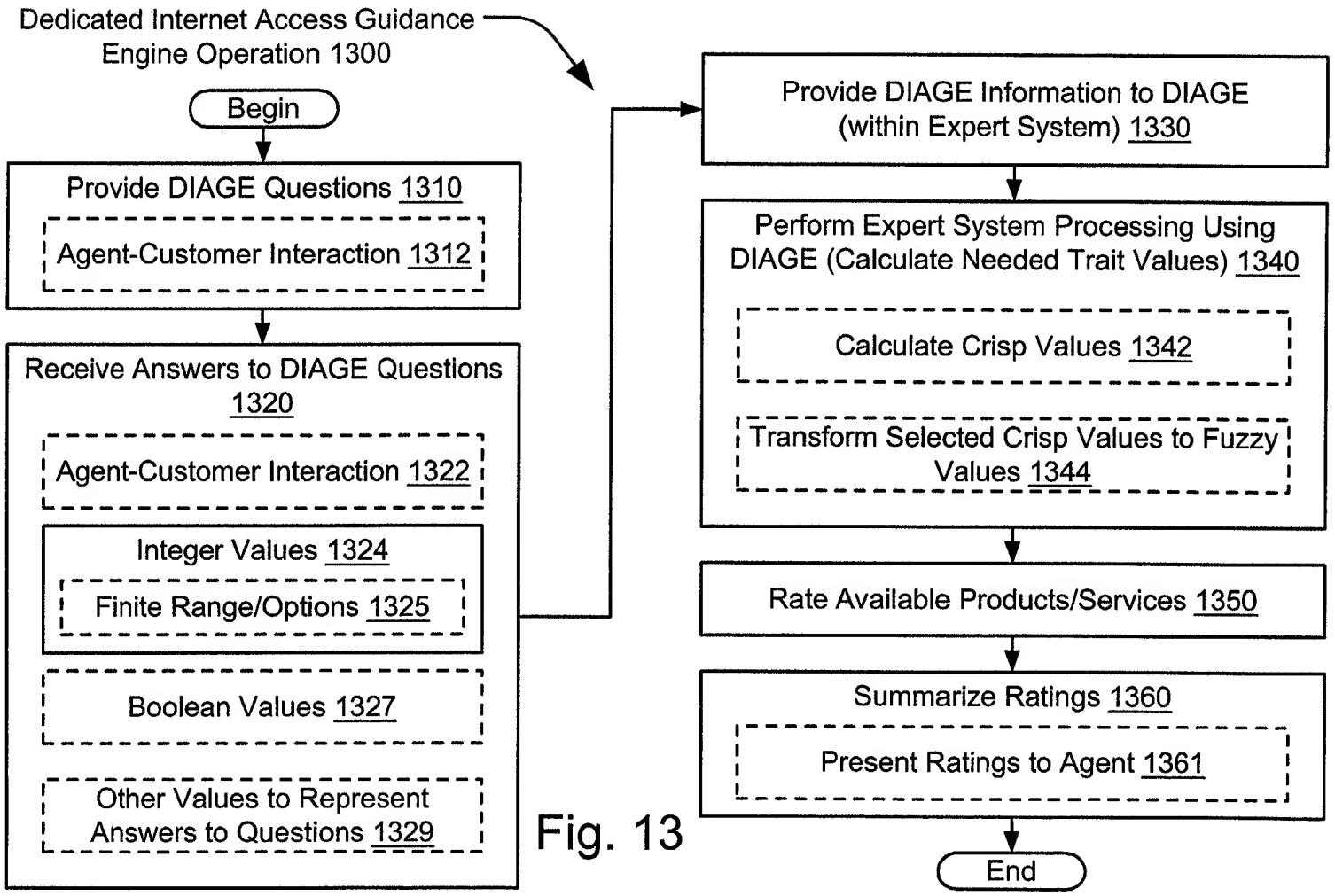
Dedicated Internet Access Guidance Engine Operation 1300
Begin
Provide DIAGE Questions 1310
Agent-Customer Interaction 1312
Receive Answers to DIAGE Questions 1320
Agent-Customer Interaction 1322
Integer Values 1324
Finite Range/Options 1325
Boolean Values 1327
Other Values to Represent Answers to Questions 1329
Provide DIAGE Information to DIAGE (within Expert System) 1330
Perform Expert System Processing Using DIAGE (Calculate Needed Trait Values) 1340
Calculate Crisp Values 1342
Transform Selected Crisp Values to Fuzzy Values 1344
Rate Available Products/Services 1350
Summarize Ratings 1360
Present Ratings to Agent 1361
End

Fig. 13

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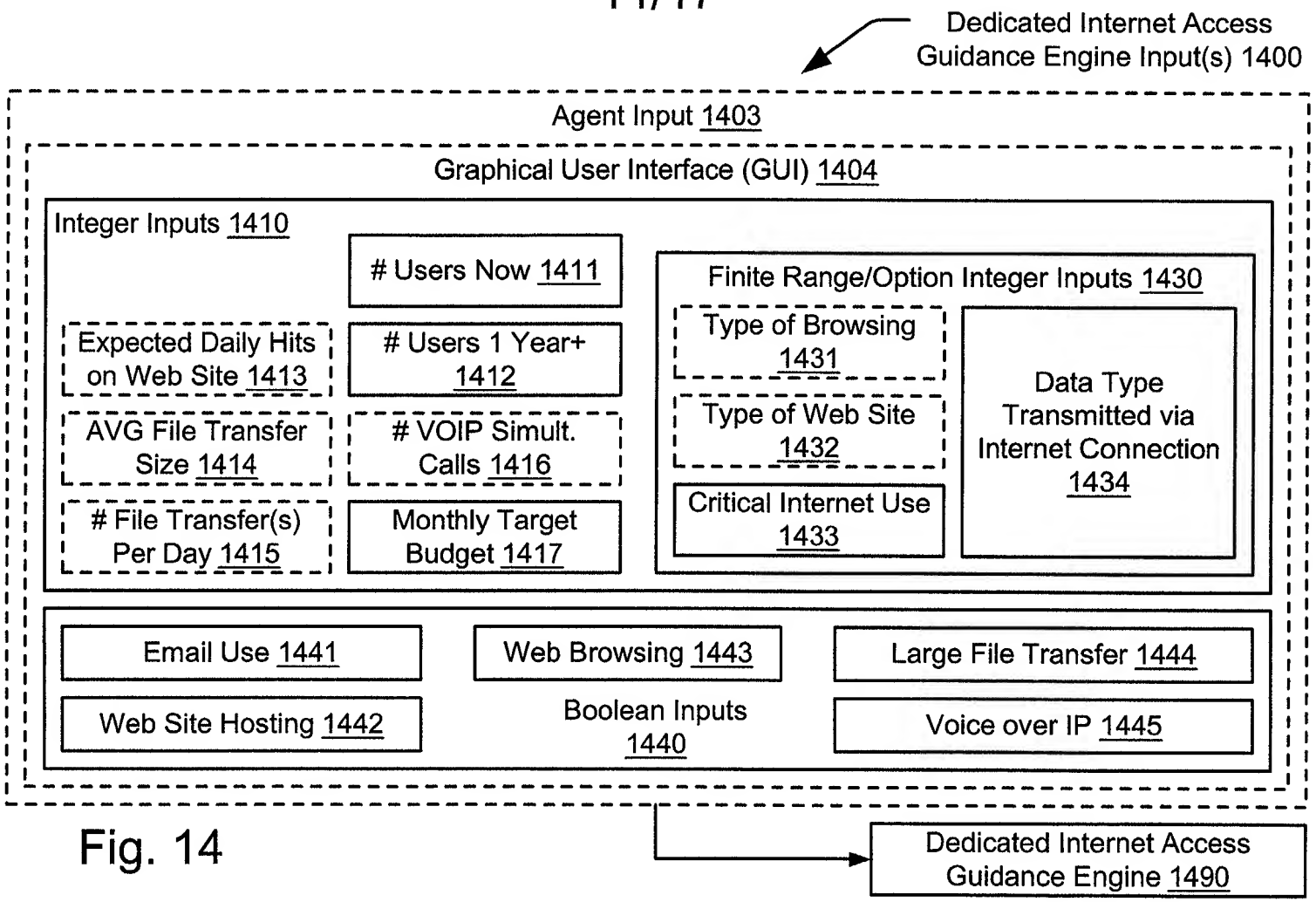

Fig. 14

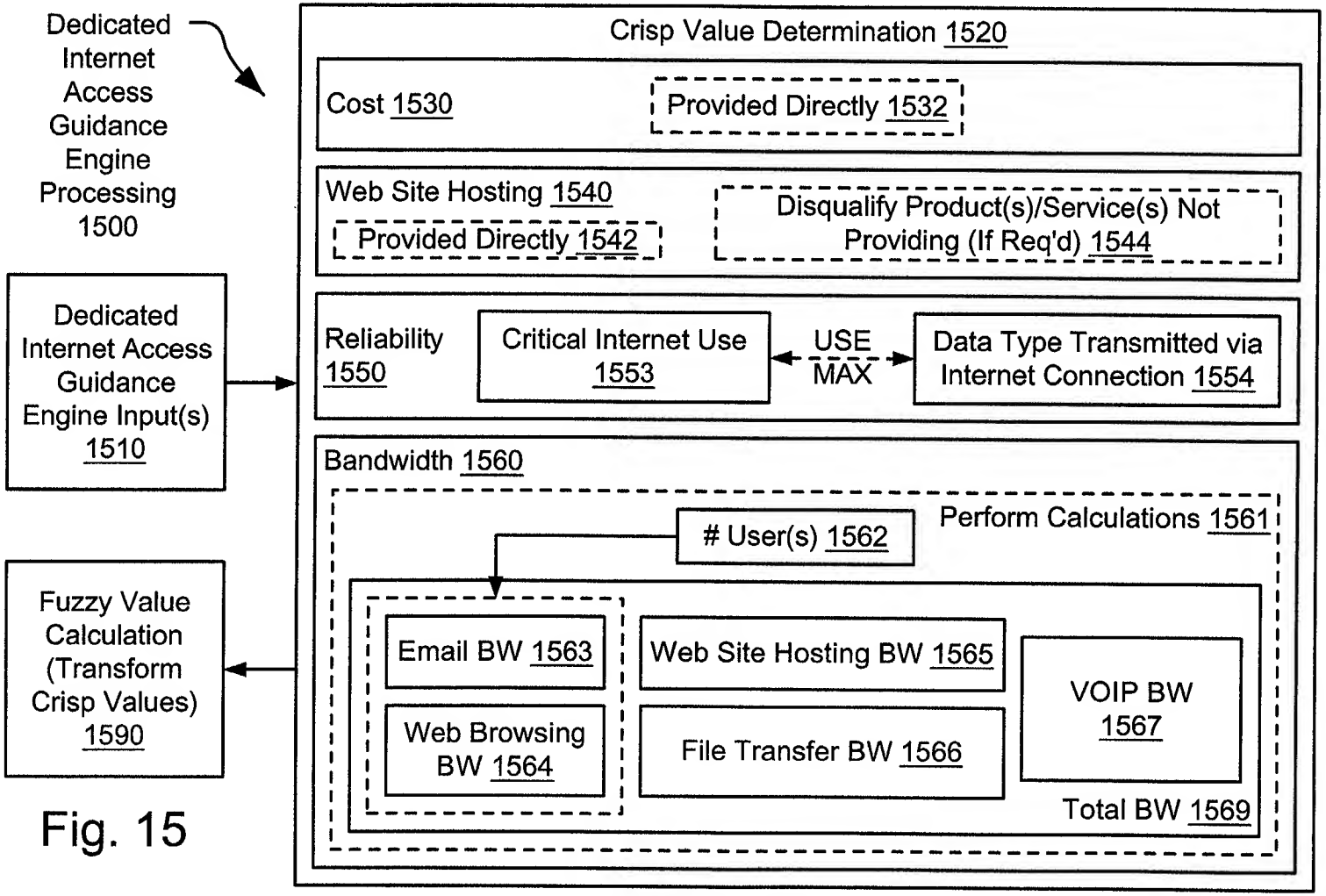
Dedicated Internet Access Guidance Engine Processing 1500
Dedicated Internet Access Guidance Engine Input(s) 1510
Fuzzy Value Calculation (Transform Crisp Values) 1590
Crisp Value Determination 1520
Cost 1530
Provided Directly 1532
Web Site Hosting 1540
Provided Directly 1542
Disqualify Product(s)/Service(s) Not Providing (If Req'd) 1544
Reliability 1550
Critical Internet Use 1553
USE MAX
Data Type Transmitted via Internet Connection 1554
Bandwidth 1560
User(s) 1562
Perform Calculations 1561
Email BW 1563
Web Site Hosting BW 1565
VOIP BW 1567
Web Browsing BW 1564
File Transfer BW 1566
Total BW 1569

Fig. 15

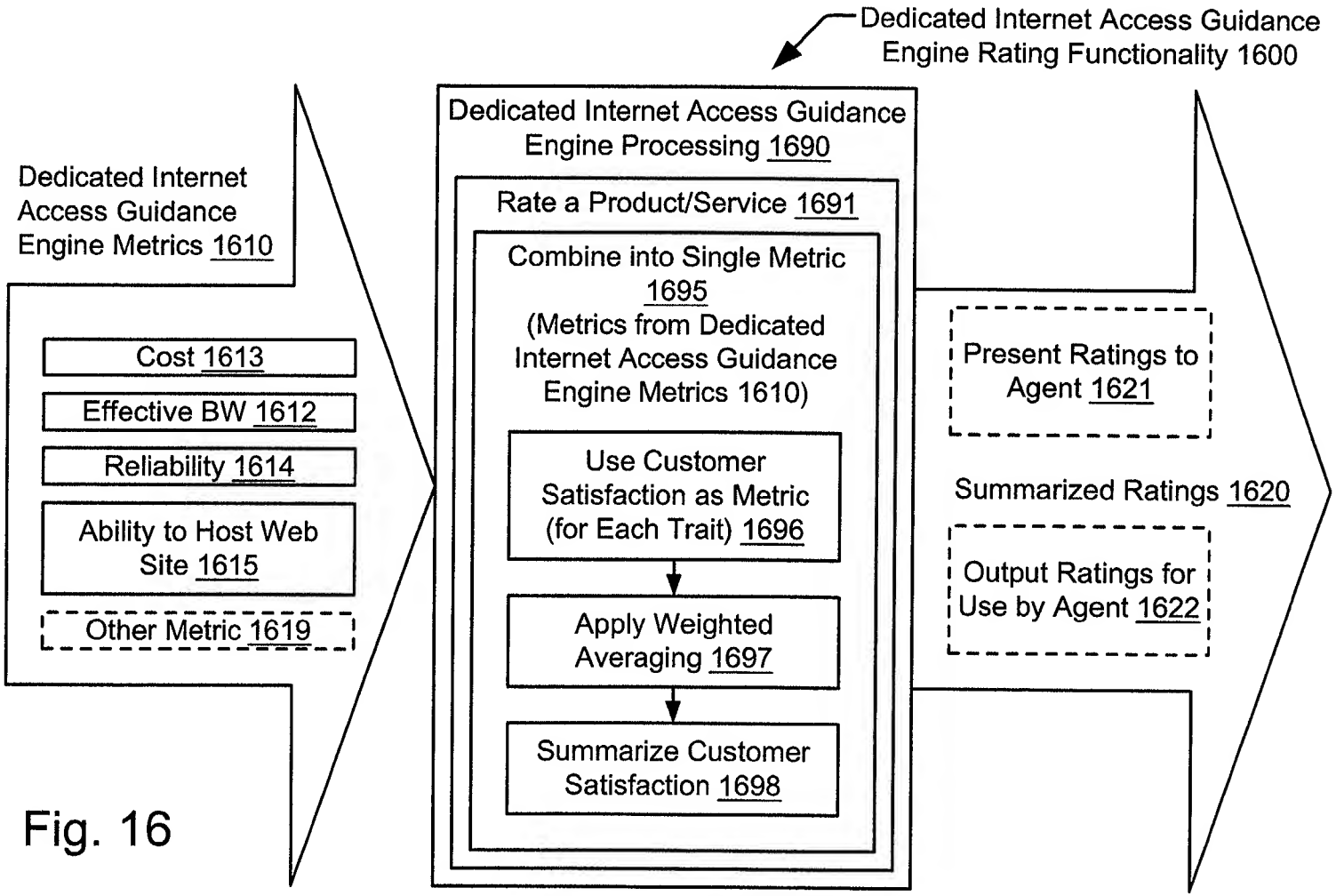
Dedicated Internet Access Guidance Engine Rating Functionality 1600
Dedicated Internet Access Guidance Engine Processing 1690
Rate a Product/Service 1691
Combine into Single Metric 1695 (Metrics from Dedicated Internet Access Guidance Engine Metrics 1610)
Use Customer Satisfaction as Metric (for Each Trait) 1696
Apply Weighted Averaging 1697
Summarize Customer Satisfaction 1698
Dedicated Internet Access Guidance Engine Metrics 1610
Cost 1613
Effective BW 1612
Reliability 1614
Ability to Host Web Site 1615
Other Metric 1619
Present Ratings to Agent 1621
Summarized Ratings 1620
Output Ratings for Use by Agent 1622

Fig. 16

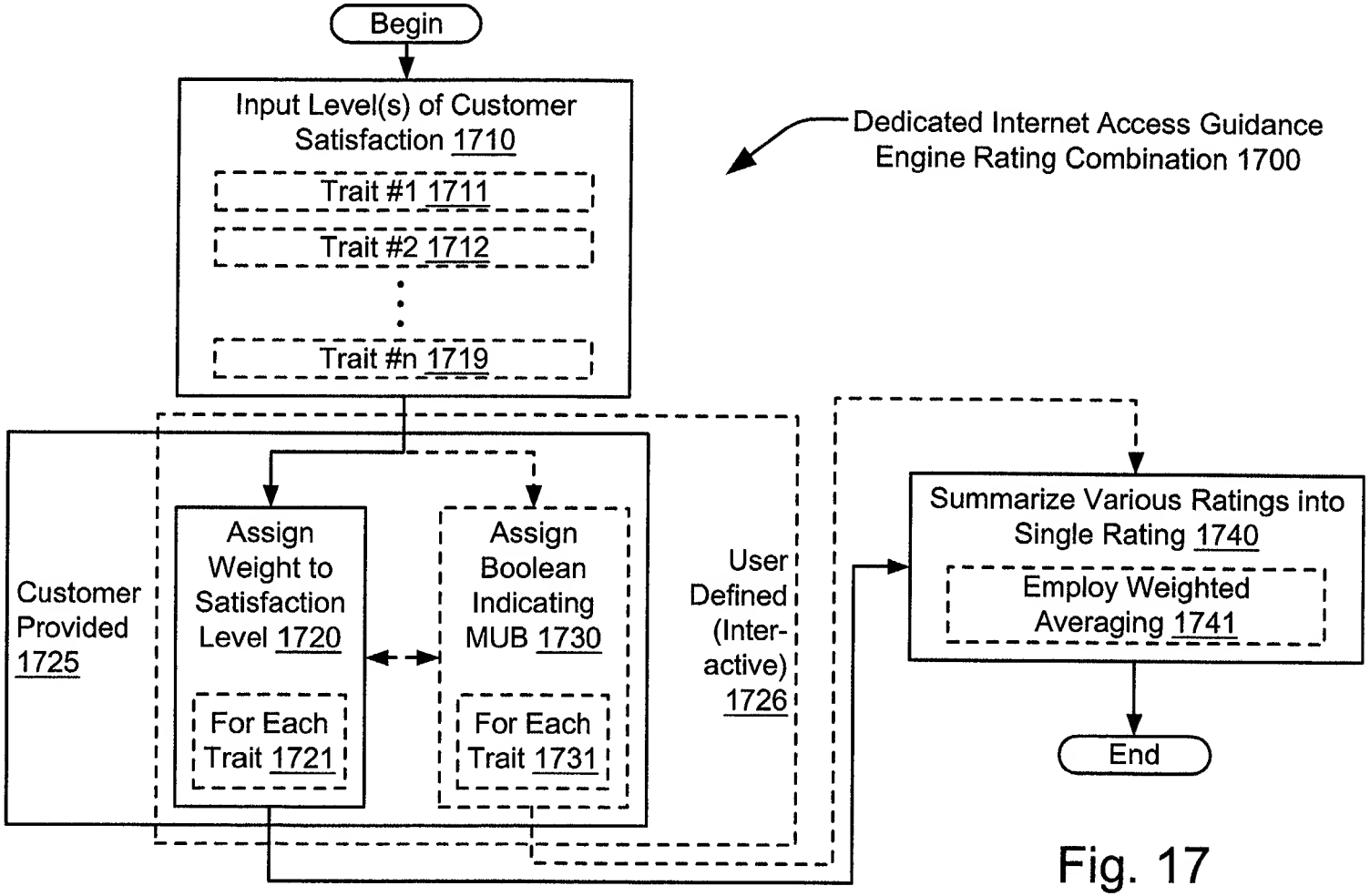
Begin
Input Level(s) of Customer Satisfaction 1710
Trait #1 1711
Trait #2 1712
Trait #n 1719
Dedicated Internet Access Guidance Engine Rating Combination 1700
Customer Provided 1725
Assign Weight to Satisfaction Level 1720
For Each Trait 1721
Assign Boolean Indicating MUB 1730
For Each Trait 1731
User Defined (Inter-active) 1726
Summarize Various Ratings into Single Rating 1740
Employ Weighted Averaging 1741
End

Fig. 17